

**The Impact of the Big Five Traits and Mood on Investment Performance –  
A Study of Individual Investors in Vietnam.**

Phung Thai Minh Trang

*Dept. of Accounting and Finance, Faculty of Economics and Commerce, Hoa Sen University,  
No. 8 Nguyen Van Trang Street, Ho Chi Minh City, Vietnam.*

Mai Ngoc Khuong

*Dept. of Business Management, School of Business Administration, International University  
– Vietnam National University, Ho Chi Minh City, Vietnam.*

Corresponding Author:

Phung Thai Minh Trang

E-mail: [phungthaiminhtrang@gmail.com](mailto:phungthaiminhtrang@gmail.com)

Tel: +084 0977 181889

# **The Impact of the Big Five Traits and Mood on Investment Performance – A Study of Individual Investors in Vietnam.**

## **Abstract**

The study explored the effects of the Big Five traits and mood on investment performance of individual investors trading on the Vietnam stock market. The author firstly used in-depth interviews for five of the investors who each have 10 years of experience of financial investment to receive their advice as well as recheck whether questions are suitable for Vietnamese situations, and then surveyed 255 investors. Results showed that Conscientiousness, Openness to experience, and Agreeableness had direct impact on investment performance. In addition, Conscientiousness, Openness, and Extraversion influenced investment performance through the mediation of positive mood. Conscientiousness, Openness and Extraversion directly affected a positive mood while Agreeableness and Neuroticism directly affected a negative mood. This study suggested that individual investors should have positive mood when investing in stocks. Moreover, investors who are prone to neuroticism rather than other traits, they refrain from investing in securities.

**Key words: mood, investment performance, personality traits, Vietnam stock market.**

## **1. INTRODUCTION**

Vietnam stock exchange, founded in 2000, consists of the Ho Chi Minh City stock exchange (HOSE) and the Ha Noi stock market (HAS). According to the State Security Commission of Vietnam, the share market capitalization in 2015 reached approximately USD 62 billion, equivalent to 34 percent of the Vietnam GDP in 2015. Although this percentage is likely to continue to increase, it has still been lower than in Thailand where share market capitalization is approximately 74% of Thailand's GDP. There are 710 listed companies making up the Vietnam stock market compared with about 7000 listed companies in the combined

Asian stock market domains (Huy, 2014). In addition, the total number of private investors' accounts in the Vietnam stock market was 1,552 million in 2015 (Bao moi magazine, 2016). This number makes up such a small percentage of the overall population when Vietnam's current population is around 90 million. Therefore, the Vietnam stock market has a huge opportunity for growth because of it being a potential market for all investors. To achieve as good results as expected, investors should consider many factors before making decisions on investing in securities. Particularly, investors are recommended to pay attention to personality traits and moods that contribute to influence on investment performance because Schwager (1993, p.49) emphasizes that "trading is emotion" and "it is mass psychology, greed and fear". Recent financial research has also shown that investors' personality is correlated to stock market investment (Cooper et al., 2000; Gherzi et al., 2014; Rizvi & Fatima, 2015) and mood takes a vital position in financial investment, even in decisions under risk and/or uncertainty (Loewenstein et al., 2001; Shu, 2010; Fenton-O'Creevy et al., 2011; Harding & He, 2015; Lepori, 2015). Apparently, there is an effect of personality traits or moods on investment performance. However, in fact, there does not seem to be any research work related to the relationship of these three factors encompassing personality traits, mood and investment performance of private investors trading in emerging stock exchanges, not except for Vietnam. Hence, the study expects to contribute to the research results in order to help individual investors understand to what extent every personality trait directly and indirectly influencing investment performance. The objectives of this study are to first explore the direct effect of personality traits, including Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism (OCEAN) on investment performance; secondly to find out how these personality traits, OCEAN, are directly affecting positive and negative mood; and finally to discover these personality traits, OCEAN, are influencing investment performance through mediation of positive and negative mood.

## **2. LITERATURE REVIEW**

Moods are different from emotions. Mood is “the appropriate designation for affective states that are about nothing specific or about everything – about the world in general” (Frijda 2009, p.258). Moods have global effects and have no objects while emotions focus on a particular object (Solomon, 1976; Lormand, 1985; Parkinson et al., 1996; Russell & Barrett 1999). Specifically, moods typically last longer than emotions (Davidson, 1994; Ekman, 1994; Ekkekakis, 2013). To measure moods, McNair et al. (1971) design the profile of mood states (POMS) including six distinct mood states such as tension, depression, anger, vigor, fatigue, and confusion. POMS is not the most appropriate option because “exercise might have influenced components of mood other than the six tapped by this measure” (Ekkekakis, 2013, p.323). Over the past decade, Watson et al. (1988) designed the positive and negative affect schedule (PANAS) which emphasizes two primary dimensions of moods including positive and negative affect, instead of separate mood states like POMS. Positive affect reflects “the extent to which someone feels enthusiastic, active, and alert” while negative affect is considered as a “general dimension of subjective distress and unpleasurable engagement” (Watson et al., 1988, p.1063). The PANAS includes 20 items: 10 items for positive affect, e.g. interested, excited and 10 ones for negative affect such as distress, upset, etc. and has become “one of the most widely used measures of affect” (Ekkekakis 2013, p. 327). Furthermore, positive affect is involved in pleasantness and engagement associated with emotions such as happiness, enthusiasm, and elation. In contrast, negative affect is related to unpleasant feelings embracing sadness, anger, fear and disgust (Olson, 2006).

Personality is “that pattern of characteristic thoughts, feelings, and behaviors” that differentiate an individual from others and that persists for a long time and situation (Phares, 1991). Personality traits primarily including 18,000 items which become a “semantic

nightmare” for psychologist (Allport, 1937). Over past decades, Cattell et. al. (1943, 1970) reduced the 4500 trait terms to 35 dimensions while Eysenck (1994) suggested three dimensions including extraversion, neuroticism and psychoticism. Subsequently, personality traits are suggested to reduce to sixteen dimensions (Cattell et al., 2008). More importantly, McCrae & Costa (1987) and Costa and McCare (1992) proposed to use five major domains as the Big Five embracing Openness to experience (O); e.g. wide interests, imaginative and insightful. Conscientiousness (C); e.g. organized, thorough and planful. Extraversion (E); e.g. talkative, energetic and assertive. Agreeableness (A); e.g. sympathetic, kind and affectionate. Neuroticism (N); e.g. tense, moody and anxious. Currently, the Big Five is the most popular because it are understandable, particularly, “it can capture, at a broad level of abstraction, the commonalities among most of the existing systems of personality traits” (John & Srivastava, 1999, p. 122).

### ***Personality traits and mood***

Wilt et al. (2012) explored that trait extraversion and trait positive affect had relationship through mediation of aggregated extraversion states and positive affect states. Additionally, it also implied that individuals might be able to increase their happiness by self-regulating their extraverted states. However, participants who attended in this study were undergraduate. This result was consistent with both McNiel et al (2010) and Hirsh et al (2010) although these two authors applied for different methods. Specifically, McNiel et al (2010) was prone to the qualitative approach by using 10-minute dyadic discussion to 96 undergraduate participants and gave results that state extraversion had a strong impact on positive affect and smaller but still strong effects on pleasant and activated affect. In contrast, Hirsh et al (2010) used mix methods including interviews and surveys to 137 undergraduate students. Results indicated that there was a significant interaction between extraversion and

positive affect. Additionally, an experimental method was used by McNiel & Fleeson (2006) to define causal status of state extraversion and neuroticism. Results presented that people had more positive impact when suggested to perform extraverted rather than when proposed to work introverted; people had negative influences when asked to do neurotic rather than when asked to perform stable. One more approach was used by Lucas et al (2004) was a meta-analysis to check the effect of extraversion based on pleasure. Extraverts were recommended to be happier than introverts. The reactivity models mentioned that extraverts strongly reflected to pleasant situations. Especially, they were just more excited than introverts for positive circumstance. More interestingly, Lischetzke & Eid (2006) focused not only on a situation for their research, but also on three studies to answer the question of why extraverts were happier than introverts. “Mood maintenance” showed the relationship between extraversion and “pleasant-unpleasant” trait mood. Besides, when faced with challengeable conditions, extraverts maintained positive impact balance rather than introverts. In a workplace environment, Gomez et al (2002) surveyed 143 participants from the ages of 18 to 25 to compare how neuroticism, extraversion and neuroticism were involved in processing pleased and unpleased emotional information. Consequences presented that extraversion was correlated positively with the processing of information which was pleasant. Conversely, neuroticism had positive association with the processing of information which was unpleasant. Moreover, Zellars et al. (2004) surveyed 290 nurses working for two hospitals in the Southeast. They discovered that extraversion importantly predicted the reduced achievement component of burnout, while neuroticism crucially forecasted the exhaustion and depersonalisation integrations. Moods also had direct and mediated impact on personality traits. Specifically, extraversion affected accomplishment through mediation of positive moods and the effect of neuroticism and exhaustion was partially mediated by negative moods.

Apparently, the relationship between the Big Five and mood does not seem to be explored on the stock markets. Hence, the study hypothesizes the correlation between individual investors' personality and mood as follows:

*H1: (H1.1 – H1.5): Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism significantly affect positive mood, respectively.*

*H2: (H2.1 – H2.5): Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism significantly affect negative mood, respectively.*

### ***Personality traits and investment performance***

Investor personality also plays a vital role in determining behavior of investors and influence investor's investment performance. An investment is "the current commitment of money or other resources in the expectation of reaping future benefits" (Bodie et al. 2014, p.5). The difference between what people put in and what they obtain back is the return (Feibel, 2003). It is certain that people wish to invest with the aim of receiving returns as expected. Therefore, investment performance is the return on an investment portfolio and measured by returns on initial investment (ROI) and degree of satisfaction from profits they achieved (Jegadeesh & Titman 1993; Lin & Swanson 2003; Oberlechner & Osler, 2008).

Recently, Rizvi and Fatima (2015) studied the relationship between personality traits and the stock investment by sending an online survey to 100 investors trading or not trading in the stock market. Results showed that age group (18-28 and 29-39 ages), gender (dominant male), number of dependents, income level, extraversion, agreeableness, conscientiousness, neuroticism and openness personality dimension had significant impact on stock market investment. In addition, Gherzi et al. (2014) researched personality and market returns that influence investors' portfolio controlling behavior by surveying 617 investors. Results showed that there was an important interaction between neuroticism and negative market returns. Nga

and Yien (2013) presented impact of personality traits and demographics of general Y on financial decision-making by surveying undergraduate students in Malaysia. Findings found a significant impact of conscientiousness on risk aversion, openness on cognitive biases and agreeableness on socially responsible investment. Lin (2011) surveyed 554 individual investors in Taiwan stock market about influences of investment biases through personality traits. Results showed that conscientiousness, openness, extraversion and neuroticism significantly affected investment biases.

From this demonstration, this relationship does not seem to study in Vietnam. Therefore, the study tests the interaction between individual investors' the Big Five and investment performance as follows:

*H3: (H3.1 – H3.5): Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism significantly affect investment performance, respectively.*

#### ***Mood and investment performance***

Harding & He (2015) studied the relationship between investor mood and the determinants of stock price with 198 participants (57% female) who joined in the research. Results showed that when investor mood becomes worse, the level of risk aversion increased in male, not female investors. Particularly, the changing in mood did not influence forecasts of earnings or cash flows in the future. In addition, Lepori (2015) produced the study related to the relationship between investor mood and demand for stocks through popular “TV series finales” by using major TV series finales in the interval from 1967 to 2012 as mood replacing situations. Results indicated that when U.S. stock returns had a decrease, watching the show on a certain day had an increase. Particularly, this impact was stronger for small-cap and high-volatility. Besides, it also found that negative mood decreased the requirements for risky assets. Shu (2010) also showed investor mood influencing asset prices and expected returns. Results showed there was a positive correlation between investor mood with equity and bill

price, particularly when asset's price was higher, the mood was better; whereas expected asset returns had a negative correlation with investor mood. Grable & Roszkowski (2008) researched the relationship of mood and the willingness taking financial risks by surveying 460 participants with ages of 18-75. Results showed that people being in a happy mood had a positive correlation with having a higher level of financial risk tolerance.

For these evidences which were not studied in Vietnam, the study has following assumptions of the relationship between individual investors' mood and investment performance:

*H4 (H4.1-H4.2): Positive mood and negative mood significantly affect investment performance, respectively.*

As presented above, there is a relationship among the Big Five, Mood and investment performance. Thus, the study hypothesizes the effects of personality traits on investment performance through mediation of variables: positive and negative mood. Namely:

*H5: (H5.1 – H5.5): the effect of Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism on investment performance is mediated by positive mood, respectively.*

*H6: (H6.1 – H6.5): the effect of Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism on investment performance is mediated by negative mood, respectively.*

### **3. METHOD**

#### **3.1 Research method, samples and research instruments**

This study mostly employed the quantitative approach with questionnaires delivered directly to individual investors trading on the Vietnam stock market. The study applied questions with 5-point Likert scales (1 = totally disagree and 5 = totally agree) of 21

personality traits because of time limitation and financial constraints (Kovaleva et al., 2013), positive and negative mood from Watson and Clark (1992) and investment performance produced by Oberlechner and Osler (2008). Hair et al (2014) recommends that the minimum sample size in factor analysis (EFA) is that the number of participants should be more than 5 times the number of items, or a hundred. ( $N = 5 \times \text{items}$ ). The number measured items of the independent variables of personality traits was 21 items so the minimum number of cases required for this study:  $N = 5 \times 21 = 105$  respondents. The author used in-depth interviews for five of the investors who each have 10-years of experience of financial investment in order to recheck whether questions are suitable for Vietnamese situations. After finishing adjustments, the pilot survey with random sample of 50 investors aims to test the reliability of the measurement scales. Finally, with supports from securities corporations, questionnaires were sent to 260 private investors trading on the Vietnam stock exchange. There were 255 valid returned questionnaires. Tests for reliability and validity of the research are done by SPSS software. Significance of mediated variables are checked by bootstrapping method recommended by Preacher & Hayes (2008).

### **3.2 Factor analysis and reliability**

For the test of reliability, Hair et al. (2014) suggests that Cronbach's alpha should be from 0.6. Besides, The KMO and Bartlett's test should be more than 0.6 and the accepted significant level ( $p$ ) is not more than 0.05. Initial Eigenvalue should be greater than 1 and cumulative percentage is not less than 50%. Factor loadings of the items on a factor are greater than 0.3, the corrected item-total correlation index is 0.3 and the rotation sums of squared loadings is suggested to be more than 50%.

Recommended by Kovaleva et al. (2013), the study inverted 8 items turned totally disagree (1) into totally agree (5), disagree (2) to agree (4), and moderate (3) unchanged. Specifically, they include EXT3: I am quiet; EXT4: I am reserved; AGR2: I tend to find fault

with others; AGR3: I can be cold and aloof; AGR4: I am sometimes rude to others; CON4: I tend to be lazy; NEU4: I am relaxed, handles stress well; OPEN5: I have few artistic interests. Results showed that there were only four groups of independent variables which were satisfied with conditions of Eigenvalues > 1 and cumulative percentage > 50% since conscientiousness and openness to experience were merged into one group. The Big Four included Conscientiousness and Openness to experience (CONOPEN), Extraversion (EXT), Agreeableness (AGR) and Neuroticism (NEU) met requirements mentioned instead of the Big Five as expected.

Moreover, all mediated and dependent variables met standards involved. KMO and Bartlett's test for independent variables of 0.768 and dependent ones of 0.766 with significant level ( $p < 0.001$ ). The results of Cronbach's alpha of all variables were not less than .6 encompassing CONOPEN at 0.801, NEURO at 0.811, AGREE at 0.71, EXTRO at 0.827, POSMOD at 0.783, NEGMOD at 0.875, and INVESTPER at 0.709. Details were indicated in Table 1 below.

Table 1: Summary of Cronbach's Alpha of independent and dependent variables

Dependent and independent variables	Number of items per variable	Type of variables	Cronbach's Alpha
Conscientiousness and Openness to experience (CONOPEN)	7	Independent	.801
Neuroticism (NEURO)	3	Independent	.811
Agreeableness (AGREE)	3	Independent	.710
Extraversion (EXTRO)	2	Independent	.827
Positive mood (POSMOD)	5	Mediated	.783
Negative mood (NEGMOD)	6	Mediated	.875
Investment performance (INVESTPER)	3	Dependent	.709

## 4. RESULTS

### 4.1. Characteristics of respondents

Most investors were male with 63.5% of the total sampling while the remaining being female. In regards to the investors' age: 51.8% of them ranged in age from 26 to 35, with 30.6% from 18 to 25, 15.3% were 36 to 55 years old and finally 2.4% were over 55 years old. In terms of their education, 76.1% had an university degree, 11.8% were at a diploma level, and 11% had earned a master's degree. In regards to income levels: 46.3% of the investors earned between 6 and 12 million VND per month, 29.8% earned under 6 million VND/month, 12.2% earned from 12 to 20 million VND/month, and 11.8% earned over 20 million VND/month. In regards to their work experience: most investors (54.1%) had worked for less than 5 years, 38.4% worked from 5 to 10 years, and 7.5% worked over 10 years. Examining how long these respondents had been investors: 30.6% were investors from 1 to 3 years, 25.9% had invested for under 1 year, 22.7% from 3 to 5 years, 18.8% from 5 to 10 years, and only 2% had been an investor for over 10 years. Surprisingly, 66.7% of them had received some type of formal training on securities investment. Finally, analyzing the amount of their investment portfolio: 44.7% of the investors had invested less than 100 million VND, 24.3% invested between 100 to 300 million VND, 9.4% invested from 300 to 600 million VND, 3% invested from 600 to 1 billion VND, 9% invested from 1 to 3 billion VND and 24.31% invested over 3 billion VND in securities.

#### **4.2. Correlations of variables**

The study discovered correlations and significant levels between personality traits, negative and positive moods, and investment performance. Firstly, some traits had a strong correlation with investment performance (INVESPER) such as conscientiousness and openness (CONOPEN) at  $r = 0.199$  ( $p < 0.001$ ), extraversion at  $r = 0.196$  ( $p < 0.001$ ) and positive mood (POSMOD) at  $r = 0.186$  ( $p < 0.001$ ). Neuroticism (NEURO), agreeableness (AGREE) and negative mood (NEGMOD) did not have significant correlations with investment performance. Besides, CONOPEN negatively correlated with neuroticism at  $r = -$

0.119 ( $p < 0.05$ ) and positively correlated with agreeableness at  $r = 0.180$  ( $p < 0.01$ ), extraversion at  $r = 0.322$  ( $p < 0.001$ ), and POSMOD at  $r = 0.229$  ( $p < 0.001$ ). Neuroticism had negative correlations with agreeableness at  $r = -0.385$  ( $p < 0.001$ ), extraversion at  $r = -0.250$  ( $p < 0.001$ ) and POSMOD at  $r = -0.129$  ( $p < 0.05$ ), but positive relationship with negative mood at  $r = 0.33$  ( $p < 0.001$ ). Agreeableness had positively correlated with extraversion at  $r = 0.275$  ( $p < 0.001$ ) and POSMOD at  $r = 0.184$  ( $p < 0.01$ ), but negatively correlated with NEGMOD at  $r = -0.296$  ( $p < 0.05$ ). Extraversion had a negative relationship with NEGMOD at  $r = -0.211$  ( $p < 0.001$ ) and positive correlation with POSMOD at  $r = 0.321$  ( $p < 0.001$ ). Interestingly, NEGMOD had negative correlation with POSMOD at  $r = -0.179$  ( $p < 0.01$ ). In contrast, CONOPEN did not significantly correlate with NEGMOD. Interestingly enough, Neuroticism, agreeableness and NEGMOD did not have significant correlations with investment performance. CONOPEN and NEGMOD did also not significantly correlate each other. Details are shown and presented in Table 2 below.

**Table 2: Correlations of investment performance**

	<b>INVESPER</b>	1	2	3	4	5	6
<b>CONOPEN</b>	0.199***	1.000					
<b>NEURO</b>	-0.074	-0.119*	1.000				
<b>AGREE</b>	-0.031	0.180**	-0.385***	1.000			
<b>EXTRO</b>	0.196***	0.322***	-0.250***	0.275***	1.000		
<b>NEGMOD</b>	-0.026	-0.079	0.330***	-0.296***	-0.211***	1.000	
<b>POSMOD</b>	0.186***	0.229***	-0.129*	0.184**	0.321***	-0.179**	1.000
Mean	3.348	3.564	2.783	3.272	3.818	2.652	3.512
SD.	0.699	0.545	0.788	0.755	0.758	0.720	0.624

\* $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

### 4.3 Results of direct effects

The study analyzed multiple regressions to explore variables directly and significantly affecting mood and investment performance. For relationship between the Big Four and mood, the linear regression equation was significantly found and can shown as follows:

$$\text{POSMOD} = 2.002 + 0.150 \text{ CONOPEN} + 0.207 \text{ EXTRA} \quad (1)$$

$$\text{NEGMOD} = 2.927 + 0.216 \text{ NEURO} - 0.170 \text{ AGREE} \quad (2)$$

Firstly, the equation (1) showed that conscientiousness and openness (CONOPEN) and extraversion significantly influenced positive mood. Specifically, the unstandardized coefficient for CONOPEN was at  $B = 0.150$  ( $p < 0.05$ ) and extraversion at ( $B = 0.207$ ,  $p < 0.001$ ) in which it can be interpreted that for every additional conscientiousness and openness to experience and extraversion, an investor's positive mood increased 0.150 and 0.207, respectively.

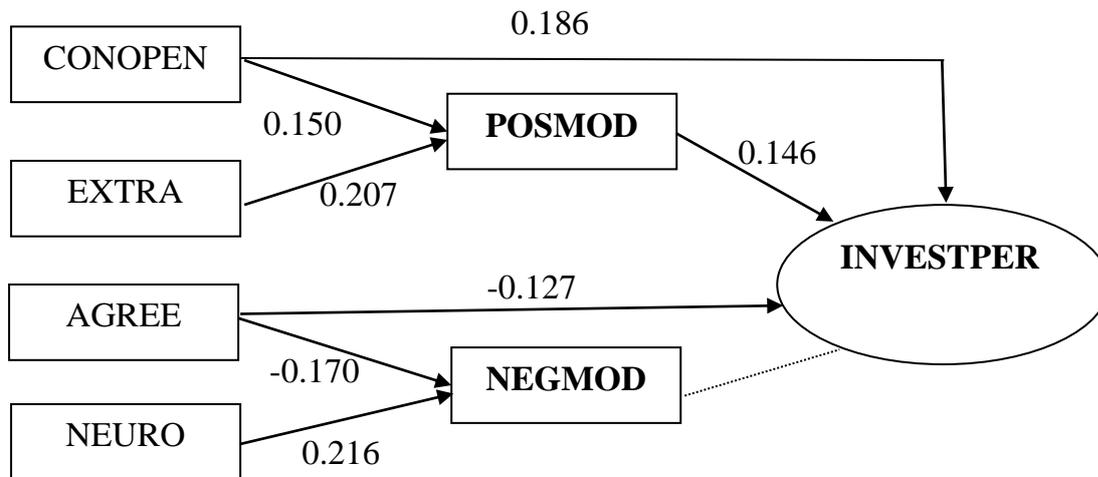
Secondly, the equation (2) indicated that neuroticism and agreeableness significantly affected negative mood. Specifically, neuroticism had a positive impact at  $B = 0.216$  ( $p < 0.001$ ), and agreeableness had a negative effect at  $B = -0.170$  ( $p < 0.01$ ). They were explained that for every additive neuroticism and agreeableness, an individual's negative mood increases 0.216 and decrease 0.170, respectively.

For direct impact on investment performance, the linear regression equation was significantly found and can be explained as follows:

$$\text{INVESTPER} = 2.235 + 0.186 \text{ CONOPEN} - 0.127 \text{ AGREE} + 0.146 \text{ POSMOD} \quad (3)$$

Finally, the equation (3) presented that conscientiousness and openness, agreeableness and positive mood significantly affect investment performance. Namely, CONOPEN had  $B = 0.186$  ( $p < 0.05$ ), AGREE at  $B = -0.127$  ( $p < 0.05$ ) and POSMOD at  $B = 0.146$  ( $p < 0.05$ ). These coefficients indicated that firstly, for every additional conscientiousness and openness to experience, an investor can expect investment performance to increase 0.186. Secondly, for every additional agreeableness, an investor's performance can decrease 0.127. Finally, for every additional positive mood, one can expect to investment performance to increase 0.146. Details are presented in Figure 1 below:

Figure 1: Path coefficient of the Investment performance



Note: Significant effect:  $\longrightarrow$ , not significant effect:  $\cdots\cdots\cdots$

#### 4.4 Results and significance of indirect effects.

The study explored CONOPEN and EXTRA which had indirect influences on INVESTPER, whereas AGREE and NEURO did not have any impact on INVESTPER. Interestingly, when investing in securities, the combination between conscientiousness and openness to experience and positive mood (mediated variable) will help investors achieve 0.022 more of investment performance for every additive to this combination. Total of direct and indirect effects, people will enhance their investment performance by 0.208 for every additive conscientiousness and openness. If integrating extraversion and positive mood, for every integration of this added, investors will increase their investment performance by 0.030. Specific details are shown in Table 3 below:

**Table 3: Direct, indirect and total of causal effects**

Variables	Causal effects			LLCI	ULCI
	Direct	Indirect	Total		
CONOPEN	0.186	0.022	0.208	0.0006	0.0515
EXTRA	----	0.030	0.030	0.0046	0.0622
Total	<b>0.186</b>	<b>0.052</b>	<b>0.238</b>		

Note: LLCI: lower level confidence interval, ULCI: upper level confidence interval.

Simultaneously, the study checked significance of indirect effects or mediations by using bootstrapping method recommended by Preacher & Hayes (2008). The results give the bootstrapped confidence intervals at the 95%. If a ZERO (0) places in the interval range of the lower and the upper boundary, it is concluded that mediation or indirect effect does not occurs. In contrast, if the ZERO is not in this interval, between lower and upper level, it is confirmed that, the mediated effect is significant ( $p < 0.05$ ) (Preacher and Hayes 2004). As presented in table 3, the indirect effects of CONOPEN and EXTRA on INVESTPER through the mediation of POSMOD were estimated to lie between 0.0006 and 0.0515, 0.0046 and 0.0622 with 95% confidence, respectively. Apparently, the zero was not in this interval confidence. Therefore, the mediations of POSMOD were significant.

## **5. DISCUSSION AND RECOMMENDATIONS**

Firstly, the hypotheses H1.1, H1.2 and H1.3 were supported, in which conscientiousness and openness to experience (CONOPEN) and extraversion affected positive mood. In addition, the findings also supported H2.4 and H2.5, in which agreeableness and neuroticism influenced negative mood. These results are consistent with many previous researches conducted by Wilt et al. (2012), McNiel et al. (2010), Hirsh et al. (2010), McNiel and Fleeson (2006), Lischetzke and Eid (2006), Lucas et al. (2004), Zellars et al. (2004), and Gomez et al. (2002). Investors whose characters are prone to CONOPEN, often do things efficiently, do a thorough job, plan and follow through with these plans. Investors whose personality dominate extraversion are usually outgoing, sociable, enthusiasm, curious about many different things, ingenious, deep thinkers and possess an active imagination. These investors feel cheerful, happy, relaxed, delighted or excited when making decisions regarding investing in securities.

Conversely, investors whose propensity is agreeableness often tend to find fault with others, can be cold and aloof, or sometimes rude to others. Then there are investors whose

tendency is towards neuroticism, often get nervous easily, worry a lot, and get depressed. These investors feel upset, sad, tired, ashamed, and usually display fear when making decisions on investing securities.

Additionally, the hypotheses of H3.1, H3.2 and H3.4 were supported. CONOPEN and agreeableness significantly affect investment performance. CONOPEN positively influences while agreeableness negatively affects investment performance. Generally, these consequences are similar to the research findings of Rizvi and Fatima (2015), and Nga and Yien (2013). Apparently, when making a decision on investing, investors whose personality is prone to CONOPEN produce a good result in which the return rate they achieved is as expected, and higher than previous periods as well as their satisfaction with investment decisions. In contrast, investors whose character manifests more agreeableness than other characteristics, receive less investment performance as well as less satisfaction with returns that they achieved. However, if investors possess less agreeableness than others, their investment performance is better. Neuroticism does not completely correlate with investment performance. It means that someone who easily gets nervous, worried a lot, or tended towards depression should not participate in trading securities.

More importantly, Rizvi and Fatima (2015) stated that all personality traits of the Big Five fully affected stock market investment in India. Gherzi et al. (2014) mentioned that neuroticism had negative interaction with market returns, while neuroticism and extraversion had no direct impact on investment performance in this research, in Vietnam. These different results need to have further projects conducted and completed to validate more accurate conclusions.

Furthermore, the result supported the hypothesis H4.1, in which positive mood significantly affected investment performance. Basically, these consequences are comparable and consistent with research conducted by Harding and He (2015), Shu (2010), and Grable

and Roszkowski (2008). Interestingly, investors who feel cheerful, happy, relaxed, delighted or excited have good results including the return rate investors achieved as required and is higher than previous results. They are very happy and satisfied with their investment decisions. Conversely, if investors feel blue, upset, sad, tired, ashamed, or afraid, they really should not make any decisions on investing in securities. Hence, negative mood does not have any impact on investment performance.

In other words, the study supported the H5.1, H5.2 and H5.3 hypotheses related to mediation analysis of POSMOD, in which it plays an important role in the results of investment. CONOPEN and extraversion affected investment performance through positive mood. Excitingly, when investors have both CONOPEN and a positive mood at the same time, they achieve higher investment performance than a single one. More importantly, although extraversion does not directly affect investment performance, if investors have both this trait and positive mood at time of their investment, then investment performance is positively affected. On the contrary, although agreeableness has a direct impact on investment performance, it will worsen, even no significance if investors simultaneously have both agreeableness and negative mood. More meaningfully, through the mediated effect of positive mood, CONOPEN helps investment results increase from 0.186 to 0.208 and extraversion makes investment performance have positive change from 0 to 0.030 for every addition.

In summary, investors should draw attention to the effects of positive mood when making decisions on investing in securities on the Vietnam stock exchange. Particularly, if investors have dominant conscientiousness and openness to experience, they will achieve a good investment performance. Besides, these investors should have a positive mood when making decisions on investing in order to receive higher profits as well as satisfaction with their investment results. For investors who are prone to extraversion, it must be integrated

with a positive mood for yielding good investment results. For investors who are dominant to agreeableness, when investing in securities, they should use less agreeableness to achieve more returns. For investors who have neuroticism rather than other traits, particularly both this character and negative mood, they refrain from investing in securities.

## **6. CONCLUSION**

The study met the objectives that were proposed. Firstly, it explores two personality traits including conscientiousness and openness to experience, and agreeableness directly influence investment performance. Additionally, the study also found out that conscientiousness and openness to experience, and extraversion directly impacted a positive mood; agreeableness and neuroticism directly affected a negative mood. Finally, the paper discovered that conscientiousness and openness to experience, and extraversion affect investment performance through positive mood. And then, some recommendations are exposed to individual investors trading on the Vietnam stock market.

The study used mix methods including interviewing and surveying questionnaires to individual investors. And then, the study applied factor analysis, multiple regression analysis, and path analysis for receiving results. Moreover, the study explained the correlation of independent variables mutually and between independent and dependent variables. Mediation analysis and significant level of mediated variables are concretely mentioned. The direct and indirect effects were fully explained to achieve the research objectives as well as hypotheses supported. In general, this research contributes to the field of personality traits, mood and investment performance of individual investors.

Further researches should take notice of other factors affecting investment performance such as investors' behavior, perception of risk, etc. They should also investigate other factors affecting positive and negative mood, particularly the effects of neuroticism on the outcome of investment performance.

## References

- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.
- Bao moi magazine (2016). Individual investor in Vietnam. (11/1/2016). Retrieved from <http://www.baomoi.com/Nha-dau-tu-ca-nhan-chiem-den-99-tren-thi-truong-chung-khoan/c/18421199.epi>
- Bodie, Z., Kane, A., & Marcus, A. J. (2014). *Investments*. 10th ed., UK, McGraw Hill.
- Cattell, H. E., & Mead, A. D. (2008). The sixteen personality factor questionnaire (16PF). *The SAGE handbook of personality theory and assessment*, 2, 135-178.
- Cattell, R. B. (1943). The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology*, 38(4), 476-506.
- Cattell, R.B. Eber, H.W. and Tatsuoka, M.M. (1970) *Handbook for the Sixteen Personality Factor Questionnaire*. Champaign, IL: Institute for Personality and Ability Testing.
- Cooper, M. L., Agocha, V. B., & Sheldon, M. S. (2000). A motivational perspective on risky behaviors: The role of personality and affect regulatory processes. *Journal of personality*, 68(6), 1059-1088.
- Costa, P. T., & MacCrae, R. R. (1992). *Revised NEO personality inventory (NEO PI-R) and NEO five-factor inventory (NEO FFI): Professional manual*. Psychological Assessment Resources.
- Davidson, R. (1994). On emotion, mood, and related affective constructs. In P. Ekman & R. J. Davidson (Eds.). *The nature of emotion* (pp. 51–55). New York: Oxford University Press.
- Ekkekakis, P. (2013). *The measurement of affect, mood, and emotion: A guide for health-behavioral research*. Cambridge University Press.
- Ekman, P. (1994). Strong evidence for universals in facial expressions: a reply to Russell's mistaken critique. *Psychological Bulletin*, 115 (2), 268–287.

- Eysenck, H. J. (1994). *The Big Five or Giant Three*. In *The Developing Structure of Temperament and Personality from Infancy to Adulthood*, edited by C. F. Halverson, G. A. Kohnstamm, and R. P. Martin, 37–51. Hillsdale, NJ: Erlbaum Associates.
- Fenton-O'Creevy, M., Soane, E., Nicholson, N., & Willman, P. (2011). Thinking, feeling and deciding: The influence of emotions on the decision making and performance of traders. *Journal of Organizational Behavior*, 32(8), 1044-1061.
- Feibel, B. J. (2003). *Investment Performance Measurement*. New York: Wiley, ISBN 0-471-26849-6
- Frijda, N.H. (2009). Mood. In D. Sander & KR Scherer (Eds.), *The Oxford companion to emotion and the affective sciences* (pp.258-259). New York: Oxford University Press.
- Gherzi, S., Egan, D., Stewart, N., Haisley, E., & Ayton, P. (2014). The meerkat effect: Personality and market returns affect investors' portfolio monitoring behaviour. *Journal of Economic Behavior & Organization*, 107, 512-526.
- Gomez, R., Gomez, A., & Cooper, A. (2002). Neuroticism and extraversion as predictors of negative and positive emotional information processing: comparing Eysenck's, Gray's, and Newman's theories. *European Journal of Personality*, 16(5), 333-350.
- Grable, J. E., & Roszkowski, M. J. (2008). The influence of mood on the willingness to take financial risks. *Journal of Risk Research*, 11(7), 905-923.
- Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2014). *Multivariate data analysis* (Vol.7). UK: Pearson Education Limited.
- Harding, N., & He, W. (2015). Investor mood and the determinants of stock prices: an experimental analysis. *Accounting & Finance*. Doi: DOI: 10.1111/acfi.12098.
- Hatcher, L. (1994). *A Step-by-Step Approach to Using the SAS® System for Factor Analysis and Structural Equation Modeling*. Cary, NC: SAS Institute, Inc.

- Hirsh, J. B., Guindon, A., Morisano, D., & Peterson, J. B. (2010). Positive mood effects on delay discounting. *Emotion, 10*(5), 717-721.
- Huy, Q.P. (2014). Investment securities. (25 March 2014). Retrieved from <http://tinnhanhchungkhoan.vn/chung-khoan/nha-dau-tu-ca-nhan-se-giam-dan-dau-tu-truc-tiep-vao-co-phieu-92236.html>
- Jegadeesh, N., & Titman, S., (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *Journal of Finance, 48*(1), 65-91.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of personality: Theory and research, 2*, 102-138.
- Kovaleva, A., Beierlein, C., Kemper, C. J., & Rammstedt, B. (2013). Psychometric properties of the BFI-K: A cross-validation study. *The International Journal of Educational and Psychological Assessment, 13*(1), 34-50.
- Leech, N., Barrett, K. and Morgan G. (2005). *SPSS for intermediate statistics: use and interpretation*. Lawrence Erlbaum Associates, Inc.
- Lepori, G. M. (2015). Investor mood and demand for stocks: Evidence from popular TV series finales. *Journal of Economic Psychology, 48*, 33-47.
- Lin, A. Y., & Swanson, P. E. (2003). The behavior and performance of foreign investors in emerging equity markets: Evidence from Taiwan. *International Review of Finance, 4*(3-4), 189-210.
- Lin, H. W. (2011). Elucidating the influence of demographics and psychological traits on investment biases. *World Academy of Science, Engineering and Technology, 77*, 145-150.
- Lischetzke, T., & Eid, M. (2006). Why extraverts are happier than introverts: The role of mood regulation. *Journal of personality, 74*(4), 1127-1162.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin, 127*(2), 267-286.

- Lormand, E. (1985). Toward a theory of moods. *Philosophical Studies*, 47(3), 385-407.
- Lucas, R. E., & Baird, B. M. (2004). Extraversion and emotional reactivity. *Journal of personality and social psychology*, 86(3), 473-485.
- McCrae, R.R., & Costa, P.T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52(1), 81–90.
- McCrae, R.R., & John, O.P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 60(2), 175–215.
- McNair et al. (1971) *Manual for the Profile of Mood States*. San Diego, CA: Educational and Industrial Testing Service.
- McNiel, J. M., & Fleeson, W. (2006). The causal effects of extraversion on positive affect and neuroticism on negative affect: Manipulating state extraversion and state neuroticism in an experimental approach. *Journal of Research in Personality*, 40(5), 529-550.
- McNiel, J. M., Lowman, J. C., & Fleeson, W. (2010). The effect of state extraversion on four types of affect. *European Journal of Personality*, 24(1), 18-35.
- Nga, J. K., & Yien, L.K. (2013). The influence of personality trait and demographics on financial decision making among Generation Y. *Young Consumers*, 14(3), 230-243.
- Oberlechner, T., & Osler, C. L. (2008). Overconfidence in currency markets. Available at SSRN 1108787.
- Olson, K. R. (2006). A literature review of social mood. *The Journal of Behavioral Finance*, 7(4), 193-203.
- Parkinson, B., Totterdell, P., Briner, R. B., & Reynolds, S. (1996). *Changing moods: The psychology of mood and mood regulation*. New York: Longman
- Peterson, R. L. (2007). Affect and financial decision-making: How neuroscience can inform market participants. *The Journal of Behavioral Finance*, 8(2), 70-78.

- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods, 40*(3), 879-891.
- Phares, J. E., (1991). *Introduction to personality*. New York: Harper Collins.
- Rizvi, S., & Fatima, A. (2015). Behavioral Finance: A Study of Correlation Between Personality Traits with the Investment Patterns in the Stock Market. In *Managing in Recovering Markets* (pp. 143-155). Springer India.
- Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: dissecting the elephant. *Journal of personality and social psychology, 76*(5), 805-819.
- Schwager, Jack D. (1993). *Market wizards: Interviews with top traders*. New York: Harper Collins Business.
- Shu, H. C. (2010). Investor mood and financial markets. *Journal of Economic Behavior & Organization, 76*(2), 267-282.
- Solomon, R. C. (1976). *The passions: Emotions and the meaning of life*. Hackett Publishing.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology, 54*(6), 1063-1070.
- Watson, D., Clark, L. A., McIntyre, C. W., & Hamaker, S. (1992). Affect, personality, and social activity. *Journal of personality and social psychology, 63*(6), 1011-1025.
- Wilt, J., Nofle, E. E., Fleeson, W., & Spain, J. S. (2012). The dynamic role of personality states in mediating the relationship between extraversion and positive affect. *Journal of personality, 80*(5), 1205-1236.

Zellars, K. L., Hochwarter, W. A., Perrewé, P. L., Hoffman, N., & Ford, E. W. (2004).

Experiencing job burnout: The roles of positive and negative traits and states. *Journal of Applied Social Psychology*, 34(5), 887-911.